

Work Order ID 90683

90683

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September-24-12 11:18:14 AM

Item ID: D2600-5-080

Accept

N900040100

Setup Start *NS1*

Revision ID:

Item Name: Extrusion 'I Beam' thin

Stop *NS2*

Start Date: 9/24/12 Start Qty: 80.00

80

Cust Item ID:

Required Date: 10/08/12 Req'd Qty: 80.00

80

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2600	E

100 PURCHASING 0.00

100

Purchasing

Purchasing

PURCHASING

Memo

Issue P/O: 17996
a) Extrude as per Dwg D2600 (80" long)

b) Material: 6061-T6
c) Material certification is required.

CL 12/09/26 (162)

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo

Ensure certification is attached

12/10/19 (162)

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Item ID: D2600-5-080 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Extrusion 'I Beam' thin
 Start Date: 9/24/12 Start Qty: 80.00 *80* Cust Item ID:
 Required Date: 10/08/12 Req'd Qty: 80.00 *80* Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC6- Inspect dimensions to drawing	0.00				161	X		
120									
QC	Memo	0.00							
Quality Control	2-Check Pull test per Dwg D2600 for compliance page attached. 3-Check hardness with Webster tester								
	*Pull off 20 pcs For Random QC inspection								
130	Identify as per dwg & Stock Location: LG	0.00							
130									
Packaging	Memo	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

12/10/24

NCR: Yes ☒ No ☐

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: *AKH*

Date: 12/11/02

QA Closed: *CK*

Date: 12/12/05

Work Order: <u>90683</u> Part No. <u>D2600-5-080</u> NCR No. <u>12-1982</u>				DISPOSITION Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input checked="" type="checkbox"/> - <i>TRANSPORT</i> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/> Equip/Tooling <input type="checkbox"/> Operator <input type="checkbox"/> Material <input type="checkbox"/> Setup <input type="checkbox"/> Other <input checked="" type="checkbox"/> Process <input type="checkbox"/> Supplier <input type="checkbox"/> Training <input type="checkbox"/> Unapproved <input type="checkbox"/>	12/10/06	130	(X1)	Found when identifi + stock heat qty x1 has damage on end of web.	<i>DAS 1E 9-200</i> GS2042 12/10/06	Scrap + Destroy. qty x1 <div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 10px;"> <i>\$ 24.59</i> </div>	<i>JB</i> 12/10/06	<i>DAS 1E 9-200</i> 12/10/06	<i>DAS 1E 9-200</i> GS2042 12/10/06		
FAULT CATEGORY											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input checked="" type="checkbox"/> Other <i>Handling by supplier / transport.</i>		

Picklist Print

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Work Order ID: 90683

Parent Item: D2600-5-080

Start Date: 9/24/12

Required Date: 10/08/12

Parent Item Name: Extrusion 'I Beam' thin

Start Qty: 80.00

Required Qty: 80.00

Comments: IPP F02.09.10Added DSK 066KJ/RF

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-5-080P Extrusion 'I Beam' thin		Purchased	No			110	Each	0.0000	1	80 162		12/4/12	

SPECIFICATION CONTROL DRAWING

D2600-X-XXX EXTRUSION

NOTES:

1) MATERIAL: 6061-T6 ALUMINUM PER QQ-A-200/6 OR AMS-QQ-A-200/8 OR ASTM B221

MINIMUM TENSILE YIELD STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 40 KSI
MINIMUM ELONGATION = 8%

A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES

- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N & B/N PER DART QSI 044 6.1 (FINE POINT PERMANENT INK MARKER)
- 7) WEIGHT: D2600-1 = 0.078 lb/in, D2600-3 = 0.130 lb/in, D2600-5 = 0.045 lb/in, D2600-7 = 0.091 lb/in
- 8) NO TOOLING MARKS
- 9) FOR D2600-1, PART NUMBER IS D2600-1-XXX WHERE XXX IS CUT LENGTH (EX. D2600-1-160 IS 160" LONG).
D2600-1 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MH-18870
 - SIGNATURE ALUMINUM (BON-L) DIE # 897121
- 10) FOR D2600-3, PART NUMBER IS D2600-3-XXX WHERE XXX IS CUT LENGTH (EX. D2600-3-120 IS 120" LONG).
D2600-3 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MH-18859
 - SIGNATURE ALUMINUM (BON-L) DIE # 897122
- 11) FOR D2600-5, PART NUMBER IS D2600-5-XXX WHERE XXX IS CUT LENGTH (EX. D2600-5-108 IS 108" LONG).
D2600-5 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MS-18871
- 12) FOR D2600-7, PART NUMBER IS D2600-7-XXX WHERE XXX IS CUT LENGTH (EX. D2600-7-125 IS 125" LONG).
D2600-7 EXTRUSION MANUFACTURED FROM:
 - CARADON INDALEX DIE # MS-18872

RELEASED
2012-01-11

CZ12/09/24
W/O: 90683

E	REFORMAT DWG; ALL DIMS & TOL. UPDATE TO MATCH MFG DIE DWGS; ADD ASTM B221 SPEC (D8-1)	CP	11.10.18
D	INCREASE MIN. UTS TO 40 KSI	DS	98.08.20
C	ADD D2600-3, UPDATE D2600-1 WIDTH, ADD DIE NO.	DS	98.04.16
B	CHANGE MATERIAL SPEC.	DS	97.09.09
A	NEW ISSUE	DS	97.01.21
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED	AS	DRAWING NO.	REV. E
MFG. APPR.		D2600	SHEET 1 OF 3
APPROVED		TITLE	SCALE
DE APPR.		EXTRUSION	NTS
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2012-01-10

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CHECKED	<i>ASS</i>	DRAWING NO.	REV. 0
MFG. APPR.	<i>BE</i>	D2600	SHEET 2 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	EXTRUSION	NT
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2012-01-11

DESIGN	<i>4</i>	DART AEROSPACE LTD	
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CHECKED	<i>ASS</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>EL</i>	D2600	SHEET 3 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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Pointe-Claire, QC, Canada H9R 5W3
Téléphone (514) 697-5120
Fac-simile (514) 694-8310

sapa:

Rapport des propriétés mécaniques Mechanical Properties Test Report

Client / Customer : **DART AEROSPACE LTD**
Adresse / Address : **1270 ABERDEEN STREET
HAWKESBURY ONT,
K6A 1K7**

commande Sapa / Sapa order # : **2091757**

bon de commande / Purchase order # : **17996**

de matrice / Die # : **MS 18871**

Description : **D-2600-5 LIGHT DUTY WEB**

Alliage & trempage / Alloy & temper : **6061 T6**

Customer Part #: **D2600-5-080P**

Contrôle / Control # : **78530-1**

Coulée / Cast # : **55090**

	Min.requis Min.required	Résultat actuel Actual results
Tension ultime Ultimate stress (psi)	38 000	44 028
Contrainte élastique Yield stress (psi)	35 000	41 479
% élongation dans 2" % elongation in 2"	8	14
Dureté Rockwell E (hre) Rockwell E Hardness (hre)	88 @ 100	94

Composition chimique typique / Typical chemical composition :

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
6063	0,20 - 0,60	0,35 Max	0,10 Max	0,10 Max	0,45 - 0,90	0,10 Max	0,10 Max	0,10 Max
6005	0,60 - 0,90	0,35 Max	0,10 Max	0,10 Max	0,40 - 0,60	0,10 Max	0,10 Max	0,10 Max
6005A	0,68 - 0,72	0,15 - 0,27	0,08 - 0,12	0,20 - 0,24	0,48 - 0,52	0,03 Max	0,05 Max	0,03 Max
6061	0,40 - 0,80	0,70 Max	0,15 - 0,40	0,15 Max	0,80 - 1,20	0,04 - 0,35	0,25 Max	0,15 Max
6351	0,7 - 1,3	0,5 Max	0,10 Max	0,40 - 0,80	0,40 - 0,80	---	0,20 Max	0,20 Max

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par la norme ASTM B-221-08 excepté pour la section 8.2 (nombre de spécimen) .

We hereby certify that the material supplied meets the chemical properties as published by the ASTM B-221-08 except for section 8.2 (number of specimen) .

Sincèrement vôtre,
Yours truly,

date : **2012-10-15**



Gilles Pelletier
Technicien de la qualité
Quality technician